



SEQUENCE LISTING

<110> TORIGOE, Kakuji
TANIAI, Madoka
KURIMOTO, Masashi

<120> INTERLEUKIN-18-BINDING PROTEIN

<130> TORIGOE=4

<140> 09/786,130

<141> 2001-03-01

<150> PCT/JP98/05186

<151> 1998-11-18

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<150> JP 247,588/98

<151> 1998-09-01

<150> JP 327,914/98

<151> 1998-11-18

<160> 72

<170> PatentIn version 3.0

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<213> Homo sapiens

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Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
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Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45

Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60

Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80

Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95

Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
100 105 110

Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
115 120 125

Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala

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Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro Leu Asn Gly Thr		
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Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro Tyr Phe Ser Ile		
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Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg		
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Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn Thr Ser Thr Trp		
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Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg Ser		
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Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr		
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His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser		
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Xaa Lys Asp Pro Cys Pro
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<210> 4
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Leu Trp Glu Gly Ser Thr Ser Arg
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Xaa Xaa Gln Glu Ala Leu Pro
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THEODORE H. BROWN

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Xaa Xaa Val Leu Val Asp Pro Glu Gln Val Val Gln Arg
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Trp Glu Gly Ser Thr Ser Arg
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<400> 13

Leu Val Asp Pro Glu Gln
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His Val Val Leu
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Glu Gln Leu Thr Pro Ala Leu
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<400> 19

Phe Pro Asn Phe
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<210> 21
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M
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<400> 28

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 Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
 20 25 30

cag tgt cca gca ttg gaa gtg acc tgg cca gag gtg gaa gtg cca ctg 144
 Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
 35 40 45

aat gga acg ctg agc tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac 192
 Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
 50 55 60

 ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc 240
 Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
 65 70 75 80

 cca ggc cga ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca 288
 Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
 85 90 95

 ggt acg cag ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc 336
 Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
 100 105 110

 ctg cac agc acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt 384
 Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
 115 120 125

 gtc cag cgt cac gtc gtc ctg gcc cag ctc tgg gct ggg ctg agg gca 432
 Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
 130 135 140

 acc ttg ccc ccc acc caa gaa gcc ctg ccc tcc agc cac agc agt cca 480
 Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
 145 150 155 160

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 Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr Lys Gln Tyr Pro
 20 25 30

 gca ctg gat gtg att tgg cca gaa aaa gaa gtg cca ctg aat gga act 144
 Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro Leu Asn Gly Thr
 35 40 45

 ctg acc ttg tcc tgg act gcc tgc agc cgc ttc ccc tac ttc agc atc 192
 Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro Tyr Phe Ser Ile

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65	70	75	80
ctg aag gag ggc cac aca agt cgc gag cac agg aac aca agc acc tgg Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn Thr Ser Thr Trp			288
85	90	95	
ctg cac agg gcc ttg gtg ctg gaa gaa ctg agc ccc acc cta cga agt Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg Ser			336
100	105	110	
acc aac ttc tcc tgt ttg gtg gat cct gga caa gta gcc cag tat Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr			384
115	120	125	
cac atc att ctg gcc cag ctc tgg gat ggg ttg aag aca gct ccg tcc His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser			432
130	135	140	
cct tctcaa gaa acc ctc tct agc cac agc cca gta tcc aga tca gca Pro Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val Ser Arg Ser Ala			480
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ggc cca ggg gtt gca Gly Pro Gly Val Ala			495
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20	25	30	
cag tgt cca gca ttg gaa gta acc tgg cca gag gta gaa gta cca ctg Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu			144
35	40	45	
aat gga acg ctg agc tta tcc tgt gtc gcc tgc agc cgc ttc ccc aac Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn			192
50	55	60	
ttc agc atc ctc tac tgg ctg ggc aat ggt tcc ttc att gag cac ctc			240

NOTES - DRAFT

Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu			
65	70	75	80
cca ggc cga ctg tgg gag ggg agc acc agc cgg gaa cgt ggg agc aca			288
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr			
85	90	95	
ggt acg cag ctg tgc aag gcc ttg gtg ctg gag cag ctg acc cct gcc			336
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala			
100	105	110	
ctg cac agc acc aac ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt			384
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val			
115	120	125	
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Val Gln Arg His Val Val Leu Ala Gln			
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Met Thr Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu			
1	5	10	
tgg gtc ctg ctc ctg tgt gcc cac gtc gtc act ctc ctg gtc aga gcc			159
Trp Val Leu Leu Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala			
15	20	25	30
aca cct gtc tcg cag acc acc aca gct gcc act gcc tca gtt aga agc			207
Thr Pro Val Ser Gln Thr Thr Ala Ala Thr Ala Ser Val Arg Ser			
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 gtc ctg gcc cag ctc tgg gct ggg ctg agg gca acc ttg ccc ccc acc 96
 Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro Thr
 20 25 30

 caa gaa gcc ctg ccc tcc agc cac agc agt cca cag cag cag ggt 141
 Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro Gln Gln Gln Gly
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 ctcctgtgtg cccacgtcgt cactctcctg gtcagagcc aca cct gtc tcg cag 174
 Thr Pro Val Ser Gln
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acc acc aca gct gcc act gcc tca gtt aga agc aca aag gac ccc tgc 222
 Thr Thr Ala Ala Thr Ala Ser Val Arg Ser Thr Lys Asp Pro Cys
 10 15 20

ccc tcc cag ccc cca gtg ttc cca gca gct aag cag tgc cca gca ttg 270
 Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys Gln Cys Pro Ala Leu
 25 30 35

gaa gtg acc tgg cca gag gtg gaa gtg cca ctg aat gga acg ctg agc 318
 Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu Asn Gly Thr Leu Ser
 40 45 50

tta tcc tgt gtg gcc tgc agc cgc ttc ccc aac ttc agc atc ctc tac 366
 Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn Phe Ser Ile Leu Tyr
 55 60 65

tgg ctg ggc aat ggt tcc ttc att gag cac ctc cca ggc cga ctg tgg 414
 Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg Leu Trp
 70 75 80 85

gag ggg agc acc agc cgg gaa cgt ggg agc aca ggt acg cag ctg tgc 462
 Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr Gly Thr Gln Leu Cys

90	95	100	
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ttc tcc tgt gtg ctc gtg gac cct gaa cag gtt gtc cag cgt cac gtc Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His Val 120	125	130	558
gtc ctg gcc cag ctc tgg gct ggg ctg agg gca acc ttg ccc ccc acc Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro Thr 135	140	145	606
caa gaa gcc ctg ccc tcc agc cac agc agt cca cag cag cag ggt Gln Glu Ala Leu Pro Ser Ser His Ser Pro Gln Gln Gly 150	155	160	651
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aaa gaa gtg cca ctg aat gga act ctg acc ttg tcc tgt act gcc tgc Lys Glu Val Pro Leu Asn Gly Thr Leu Thr Leu Ser Cys Thr Ala Cys 20	25	30	96
agc cgc ttc ccc tac ttc agc atc ctc tac tgg ctg ggc aat ggt tcc Ser Arg Phe Pro Tyr Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser 35	40	45	144
ttc att gag cac ctt cca ggc cgg ctg aag gag ggc cac aca agt cgc Phe Ile Glu His Leu Pro Gly Arg Leu Lys Glu Gly His Thr Ser Arg 50	55	60	192
gag cac agg aac aca agc acc tgg ctg cac agg gcc ttg gtg ctg gaa Glu His Arg Asn Thr Ser Thr Trp Leu His Arg Ala Leu Val Leu Glu 65	70	75	240 80
gaa ctg agc ccc acc cta cga agt acc aac ttc tcc tgt ttg ttt gtg Glu Leu Ser Pro Thr Leu Arg Ser Thr Asn Phe Ser Cys Leu Phe Val 85	90	95	288
gat cct gga caa gtg gcc cag tat cac atc att ctg gcc cag ctc tgg			336

Asp Pro Gly Gln Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp
 100 105 110

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 Asp Gly Leu Lys Thr
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 cacagacacc agacttgctt gcaagtcatac atg acc atg aga cac tgc tgg aca 174
 Met Thr Met Arg His Cys Trp Thr
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gca ggc ccc agt tct tgg tgg gtc ctg ctt ttg tat gtc cat gtc att 222
 Ala Gly Pro Ser Ser Trp Trp Val Leu Leu Leu Tyr Val His Val Ile
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ttg gcc aga gcc aca tct gca cct cag aca act gcc act gtc tta act 270
 Leu Ala Arg Ala Thr Ser Ala Pro Gln Thr Thr Ala Thr Val Leu Thr
 25 30 35 40

gga agc tca aaa gac cca tgc tct tcc tgg tct cca gca gtc cca act 318
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 45 50 55

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gat ggg ttg aag aca gct ccg tcc cct tct caa gaa acc ctc tct agc 96

Asp	Gly	Leu	Lys	Thr	Ala	Pro	Ser	Pro	Ser	Gln	Glu	Thr	Leu	Ser	Ser
20						25						30			
cac	agc	cca	gta	tcc	aga	tca	gca	ggc	cca	ggg	gtt	gca	taaagccaaac		145
His	Ser	Pro	Val	Ser	Arg	Ser	Ala	Gly	Pro	Gly	Val	Ala			
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cacaccatga	ccttgaccag	agcctggctc	tcatctacct	ggagggtgga	gtctacacca								205		
taggctgtga	ttgcctttct	gctgctgaac	ctcaaactca	agcttcac									253		
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tgccttccc	agaaggaggc	tggcaagctg	gcaaacggac	tgttgcttcc	cagaggaagt								120		
cacagacacc	agacttgctt	gcaagtcatc	atgaccatga	gacactgctg	gacagcaggc								180		
cccagttctt	ggtgggtcct	gctttgtat	gtccatgtca	ttttggccag	agcc aca								237		
				Thr								1			
tct	gca	cct	cag	aca	act	gcc	act	gtc	tta	act	gga	agc	tca	aaa	gac
Ser	Ala	Pro	Gln	Thr	Thr	Ala	Thr	Val	Leu	Thr	Gly	Ser	Ser	Lys	Asp
5						10							15		
cca	tgc	tct	tcc	tgg	tct	cca	gca	gtc	cca	act	aag	cag	tac	cca	gca
Pro	Cys	Ser	Ser	Trp	Ser	Pro	Ala	Val	Pro	Thr	Lys	Gln	Tyr	Pro	Ala
20						25							30		
ctg	gat	gtg	att	tgg	cca	gaa	aaa	gaa	gtg	cca	ctg	aat	gga	act	ctg
Leu	Asp	Val	Ile	Trp	Pro	Glu	Lys	Glu	Val	Pro	Leu	Asn	Gly	Thr	Leu
35						40							45		
acc	ttg	tcc	tgt	act	gcc	tgc	agc	cgc	ttc	ccc	tac	ttc	agc	atc	ctc
Thr	Leu	Ser	Cys	Thr	Ala	Cys	Ser	Arg	Phe	Pro	Tyr	Phe	Ser	Ile	Leu
50						55							65		
tac	tgg	ctg	ggc	aat	ggt	tcc	ttc	att	gag	cac	ctt	cca	ggc	cg	ctg
Tyr	Trp	Leu	Gly	Asn	Gly	Ser	Phe	Ile	Glu	His	Leu	Pro	Gly	Arg	Leu
70						75							80		
aag	gag	ggc	cac	aca	agt	cgc	gag	cac	agg	aac	aca	agc	acc	tgg	ctg
Lys	Glu	Gly	His	Thr	Ser	Arg	Glu	His	Arg	Asn	Thr	Ser	Thr	Trp	Leu
85						90							95		
cac	agg	gcc	ttg	gtg	ctg	gaa	gaa	ctg	agc	ccc	acc	cta	cga	agt	acc
His	Arg	Ala	Leu	Val	Leu	Glu	Glu	Leu	Ser	Pro	Thr	Leu	Arg	Ser	Thr
															573

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100	105	110	
aac ttc tcc tgt ttg gat cct gga caa gtg gcc cag tat cac			621
Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr His			
115	120	125	
atc att ctg gcc cag ctc tgg gat ggg ttg aag aca gct ccg tcc cct			669
Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser Pro			
130	135	140	145
tct caa gaa acc ctc tct agc cac agc cca gta tcc aga tca gca ggc			717
Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val Ser Arg Ser Ala Gly			
150	155	160	
cca ggg gtt gca taaagccaac cacaccatga ccttgaccag agcctggctc			769
Pro Gly Val Ala			
165			
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Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys			
20	25	30	
Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu			
35	40	45	
Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn			
50	55	60	
Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu			
65	70	75	80
Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr			
85	90	95	
Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala			
100	105	110	
Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val			
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Val Gln Arg His Val Val Leu Ala Gln			
130	135		

<210> 43
<211> 49
<212> PRT
<213> Homo sapiens

<400> 43

Met Thr Met Arg His Asn Trp Thr Pro Asp Leu Ser Pro Leu Trp Val
1 5 10 15

Leu Leu Leu Cys Ala His Val Val Thr Leu Leu Val Arg Ala Thr Pro
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Val Ser Gln Thr Thr Ala Ala Thr Ala Ser Val Arg Ser Thr Lys
35 40 45

Asp

<210> 44
<211> 47
<212> PRT
<213> Homo sapiens

<400> 44

Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val Val Gln Arg His Val
1 5 10 15

Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala Thr Leu Pro Pro Thr
20 25 30

Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro Gln Gln Gln Gly
35 40 45

<210> 45
<211> 164
<212> PRT
<213> Homo sapiens

<400> 45

Thr Pro Val Ser Gln Thr Thr Ala Ala Thr Ala Ser Val Arg Ser
1 5 10 15

Thr Lys Asp Pro Cys Pro Ser Gln Pro Pro Val Phe Pro Ala Ala Lys
20 25 30

Gln Cys Pro Ala Leu Glu Val Thr Trp Pro Glu Val Glu Val Pro Leu
35 40 45

Asn Gly Thr Leu Ser Leu Ser Cys Val Ala Cys Ser Arg Phe Pro Asn
50 55 60

Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu
65 70 75 80

Pro Gly Arg Leu Trp Glu Gly Ser Thr Ser Arg Glu Arg Gly Ser Thr
85 90 95

Gly Thr Gln Leu Cys Lys Ala Leu Val Leu Glu Gln Leu Thr Pro Ala
100 105 110

Leu His Ser Thr Asn Phe Ser Cys Val Leu Val Asp Pro Glu Gln Val
115 120 125

Val Gln Arg His Val Val Leu Ala Gln Leu Trp Ala Gly Leu Arg Ala
130 135 140

Thr Leu Pro Pro Thr Gln Glu Ala Leu Pro Ser Ser His Ser Ser Pro
145 150 155 160

Gln Gln Gln Gly

<210> 46
<211> 117
<212> PRT
<213> Mus musculus

<400> 46

Ala Val Pro Thr Lys Gln Tyr Pro Ala Leu Asp Val Ile Trp Pro Glu
1 5 10 15

Lys Glu Val Pro Leu Asn Gly Thr Leu Thr Leu Ser Cys Thr Ala Cys
20 25 30

Ser Arg Phe Pro Tyr Phe Ser Ile Leu Tyr Trp Leu Gly Asn Gly Ser
35 40 45

Phe Ile Glu His Leu Pro Gly Arg Leu Lys Glu Gly His Thr Ser Arg
50 55 60

Glu His Arg Asn Thr Ser Thr Trp Leu His Arg Ala Leu Val Leu Glu
65 70 75 80

Glu Leu Ser Pro Thr Leu Arg Ser Thr Asn Phe Ser Cys Leu Phe Val
85 90 95

Asp Pro Gly Gln Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp
100 105 110

Asp Gly Leu Lys Thr
115

<210> 47
<211> 62
<212> PRT
<213> Mus musculus

<400> 47

Met Thr Met Arg His Cys Trp Thr Ala Gly Pro Ser Ser Trp Trp Val
1 5 10 15

Leu Leu Leu Tyr Val His Val Ile Leu Ala Arg Ala Thr Ser Ala Pro
20 25 30

Gln Thr Thr Ala Thr Val Leu Thr Gly Ser Ser Lys Asp Pro Cys Ser
35 40 45

Ser Trp Ser Pro Ala Val Pro Thr Lys Gln Tyr Pro Ala Leu
50 55 60

<210> 48

<211> 45

<212> PRT

<213> Mus musculus

<400> 48

Asp Pro Gly Gln Val Ala Gln Tyr His Ile Ile Leu Ala Gln Leu Trp
1 5 10 15

Asp Gly Leu Lys Thr Ala Pro Ser Pro Ser Gln Glu Thr Leu Ser Ser
20 25 30

His Ser Pro Val Ser Arg Ser Ala Gly Pro Gly Val Ala
35 40 45

<210> 49

<211> 165

<212> PRT

<213> Mus musculus

<400> 49

Thr Ser Ala Pro Gln Thr Thr Ala Thr Val Leu Thr Gly Ser Ser Lys
1 5 10 15

Asp Pro Cys Ser Ser Trp Ser Pro Ala Val Pro Thr Lys Gln Tyr Pro
20 25 30

Ala Leu Asp Val Ile Trp Pro Glu Lys Glu Val Pro Leu Asn Gly Thr
35 40 45

Leu Thr Leu Ser Cys Thr Ala Cys Ser Arg Phe Pro Tyr Phe Ser Ile
50 55 60

Leu Tyr Trp Leu Gly Asn Gly Ser Phe Ile Glu His Leu Pro Gly Arg
65 70 75 80

Leu Lys Glu Gly His Thr Ser Arg Glu His Arg Asn Thr Ser Thr Trp
85 90 95

Leu His Arg Ala Leu Val Leu Glu Glu Leu Ser Pro Thr Leu Arg Ser
100 105 110

Thr Asn Phe Ser Cys Leu Phe Val Asp Pro Gly Gln Val Ala Gln Tyr
115 120 125

His Ile Ile Leu Ala Gln Leu Trp Asp Gly Leu Lys Thr Ala Pro Ser
130 135 140

Pro Ser Gln Glu Thr Leu Ser Ser His Ser Pro Val Ser Arg Ser Ala
145 150 155 160

Gly Pro Gly Val Ala
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<212> DNA

<213> Artificial

<220>

<223> Synthetic

<400> 50

tgtgtgactg gagaagagga c

21

<210> 51

<211> 29

<212> DNA

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<400> 51

tacaggcagt cagggactgt tcactccag

29

<210> 52

<211> 14

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 52

Ala Cys Asn Cys Cys Asn Gly Thr Asn Trp Ser Asn Cys Ala
1 5 10

<210> 53

<211> 17

<212> PRT

<213> Artificial

<220>

<223> Synthetic

<400> 53

Thr Gly Asn Gly Cys Asn Ala Arg Asn Ala Cys Asn Ala Cys Arg Thr
1 5 10 15

Gly

<210>	54
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<400> 54

Gly Gly Arg Cys Ala Asn Gly Gly Arg Thr Cys Tyr Thr Thr
1 5 10

<210> 55
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<223> Synthetic

<400> 55
qgtcaacttcc aatqctqqac a

21

<210> 56
<211> 36
<212> PRT
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<220>
<223> Synthetic

<400> 56

Gly Gly Cys Cys Ala Cys Gly Cys Gly Thr Cys Gly Ala Cys Thr Ala
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Gly Thr Ala Cys Gly Gly Gly Ile Ile Gly Gly Gly Ile Ile Gly Gly
20 25 30

Gly Ile Ile Gly
35

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<220>
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<400> 57
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<210> 58
<211> 35
<212> DNA
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<220>
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<400> 58
gactcgagtc gacatcgatt tttttttt ttttt 35

<210> 59
<211> 20
<212> DNA
<213> Artificial

<220>
<223> Synthetic

<400> 59
ttctcctgtg tgctcggtga 20

<210> 60
<211> 17
<212> DNA
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<400> 60
gactcgagtc gacatcg 17

<210> 61
<211> 30
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<400> 61
ctcgaggcca ccatgaccat gagacacaac 30

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<400> 62
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<210> 64

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<400> 64
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14

<210> 65
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<220>
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<220>
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<222> (9)
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<400> 65
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17

<210> 66
<211> 21
<212> DNA
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<220>
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<400> 66
tgcaaggcagt acaggacaag g

21

<210> 67
<211> 21
<212> DNA
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<220>
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<400> 67
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21

<210> 68
<211> 18
<212> DNA

<213> Artificial
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<223> Synthetic

<400> 68
gatcctggac aagtggcc 18

<210> 69
<211> 20
<212> DNA
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CRT
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<400> 69
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<210> 70
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<212> DNA
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<220>
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<400> 70
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<210> 71
<211> 30
<212> DNA
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<400> 71
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<210> 72
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<212> DNA
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<400> 72
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